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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,647	01/26/2005	Jacek Kruszynski	W&L Case 101	7501
23474 7590 03/19/2007 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			EXAMINER CADUGAN, ERICA E	
			ART UNIT 3722	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/522,647	<b>Applicant(s)</b> KRUSZYNSKI ET AL.	
	<b>Examiner</b> Erica E. Cadugan	<b>Art Unit</b> 3722	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☒ Claim(s) 16-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>20070315</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

**DETAILED ACTION***Claim Suggestions*

1. In claim 1, line 11, Examiner suggests inserting --radially-- after “projecting” for clarity.

*Claim Rejections - 35 USC § 102*

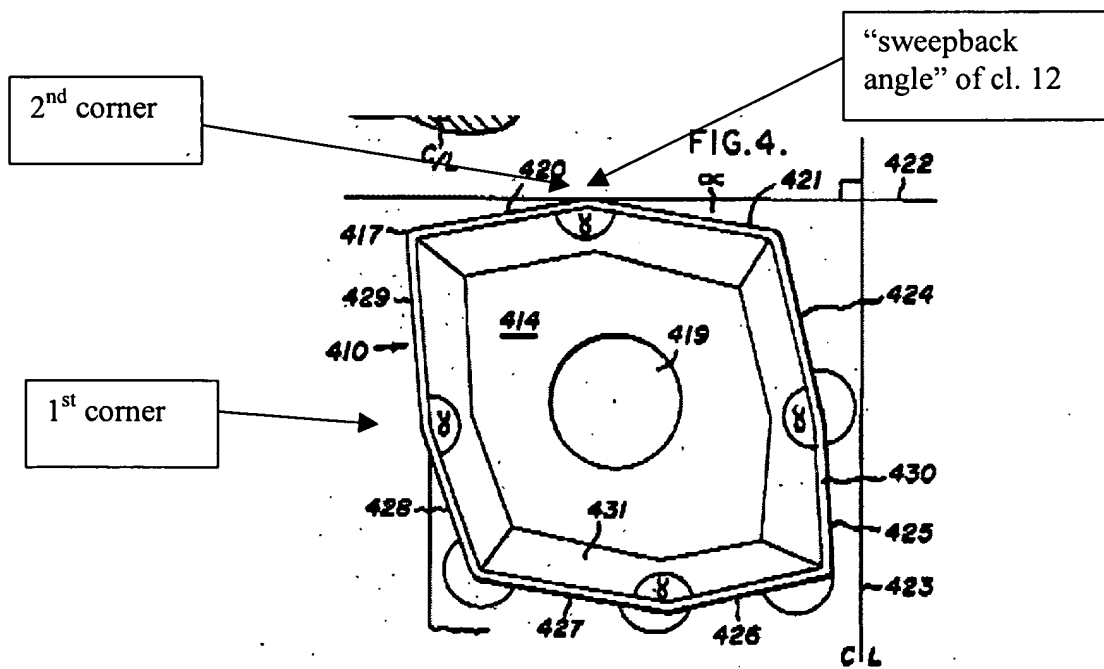
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,558,975 to Hale.

See the labeled reproduction of Figure 4 below.



For example, with respect to claim 9, it is noted that insert 114, corresponding to insert 414 shown in the reproduction of Figure 4 above, is an “outer” (in this case, radially outer) insert of the drilling tool 110, as shown in Figure 1, see also col. 2, lines 64-65 which explicitly states “[T]he insert 414 shown in FIG. 4 is the outer insert of the drill”.

Note also that as claimed, the combination of 429 and 420 can be considered to form the “main cutting edge” of claim 9, extending between “first” and “second” corners as labeled above. Furthermore, cutting edge 428 constitutes the claimed “adjacent secondary cutting edge” which adjoins the “first insert corner” as claimed. Also, the “main cutting edge” 429+420 is “subdivided” in its longitudinal extent into a first section 420, which constitutes the claimed “rectilinear working section”, and a second section 429, which constitutes the “adjoining rectilinear peeling section”.

While it is noted that the Applicant has asserted that Hale does not mention the term “peeling”, and thus does not explicitly teach that edge 429 is used as “peeling” section, Examiner notes that Hale does describe the edge 429 as a cutting edge, and thus, the edge 429 is capable of performing the claimed function of “peeling”, thus meeting the claim limitation.

Regarding the claimed angle between the “peeling section” 429 and the “working section” 420, note that Hale explicitly teaches that corner 417 is “usually about 95 degrees” (see col. 3, lines 20-23), thus meeting the claim limitation.

Re claim 10, it is noted that the corner 417 appears in at least Figure 4 to have be “rounded off convex convexly”.

Re claim 11, it is noted that in the region of the above-labeled “first insert corner”, the “peeling section” 429 and the “adjacent secondary cutting edge” 428 enclose an angle of gamma,

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which is preferably 160 degrees and can vary up to 170 degrees, thus meeting the claim language (see col. 3, lines 10-13).

Similarly, re claim 12, note that the angle so labeled above can be considered the claimed sweepback angle, noting that 421 is a "central section" that extends up to the shown second insert corner, 421 adjoins the "rectilinear working section" 420 of the "main cutting edge" 420+429, and that the "central section" 421 encloses a "sweepback angle" with the "working section" 420 and that again, Hale explicitly teaches a value between 160 and 170 degrees (col. 3, lines 10-13), thus meeting the claim language of claim 12.

Re claim 13, note that the insert is indexable, and is arranged as claimed (see Figure 4 and col. 4, lines 1-19, for example).

Re claim 14, see Figure 4 and the angle that peeling section 429 makes with the vertical, for example.

Re claim 15, note the two insert seats shown in Figure 1 for receiving inserts 114 and 115, and also note that the front main cutting edge(s) of insert 115 are shown in Figure 1 extending axially beyond the end face of the drill bit body, the front main cutting edge(s) of insert 114 are shown in Figure 2 as extending beyond the drill bit body, the radially outer insert 114 projects radially outwardly beyond the drill body (Figure 1, col. 2, lines 41-59).

With respect to claim 15, it is noted that cutting edges 420, 421 can be considered to form the peeling section and the radially inner working section, respectively, and that the cutting edge 429 can be considered to form the "secondary cutting edge", for example. Note also that secondary cutting edge 429 is inclined in the length direction thereof as shown in Figure 4, for example.

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Re the limitation regarding the “permitting of burr-free drilling”, it is noted that this is considered to be an inherent property of the cutting tool according to Hale insofar as Hale’s cutting tool has cutting edges of the claimed configuration, i.e., subdivided...etc.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 14 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,558,975 to Hale as applied above.

Hale teaches all aspects of the presently-claimed invention as set forth above.

Additionally, it is noted that as viewed in Figure 4, the angle that peeling section 429 makes with the vertical appears, as shown in Figure 4, to be within the claimed range of 72 to 87 degrees.

However, Hale is silent as to the specific value of this angle or range of values for this angle.

However, particularly since the shown angle appears to be well within the claimed range, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made that angle be within the claimed range of 72 to 87 degrees, particularly since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

*Allowable Subject Matter*

6. Claims 1-8 are allowed.
7. The following is an examiner's statement of reasons for allowance of independent claim 1:

Re independent claim 1 and the Hale reference applied to claims 9-15 above, it is noted that claim 1 sets forth that the inserts project with their "front-end main cutting edges axially beyond the drill bit body...", and that the "front-end main cutting edge of the outer insert is subdivided in its longitudinal extend into a radially inner working section and a peeling section adjoining said working section on the outside and extending up to the outer insert corner, said working and peeling sections enclosing an angle of  $95^{\circ}$  to  $110^{\circ}$  with one another". Thus, the interpretation of the Hale reference set forth above cannot apply.

Instead, relating claim 1 to the Hale reference, the front-end main cutting edges that extend axially beyond the drill bit body would be 420+421 (noting that cutting edges 429 and 428 do not extend axially beyond the drill bit body). The angle ( $\gamma$ ) between the two sections 420 and 421 is described by Hale as being preferably 160 degrees and can vary up to 170 degrees (see col. 3, lines 10-13). This is well outside the claimed range of 95 to 110 degrees, and particularly since Hale teaches a specific range for this angle  $\gamma$ , there is no teaching, suggestion, or reasonable motivation that would compel one having ordinary skill in the art to modify the teachings of the Hale reference such that the angle  $\gamma$  is within the claimed range of 95 to 110 degrees.

The aforescribed prior art being representative of the closest prior art of record to independent claim 1, for at least the foregoing reasoning, the prior art of record neither anticipates nor renders obvious the present invention as set forth in independent claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Claims 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Response to Arguments*

9. Applicant's arguments with respect to the previous prior art rejections of the claims have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

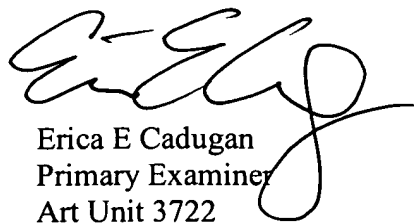
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E. Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 6:30 a.m. to 4:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on (571) 272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Erica E Cadugan  
Primary Examiner  
Art Unit 3722

eec

March 15, 2007